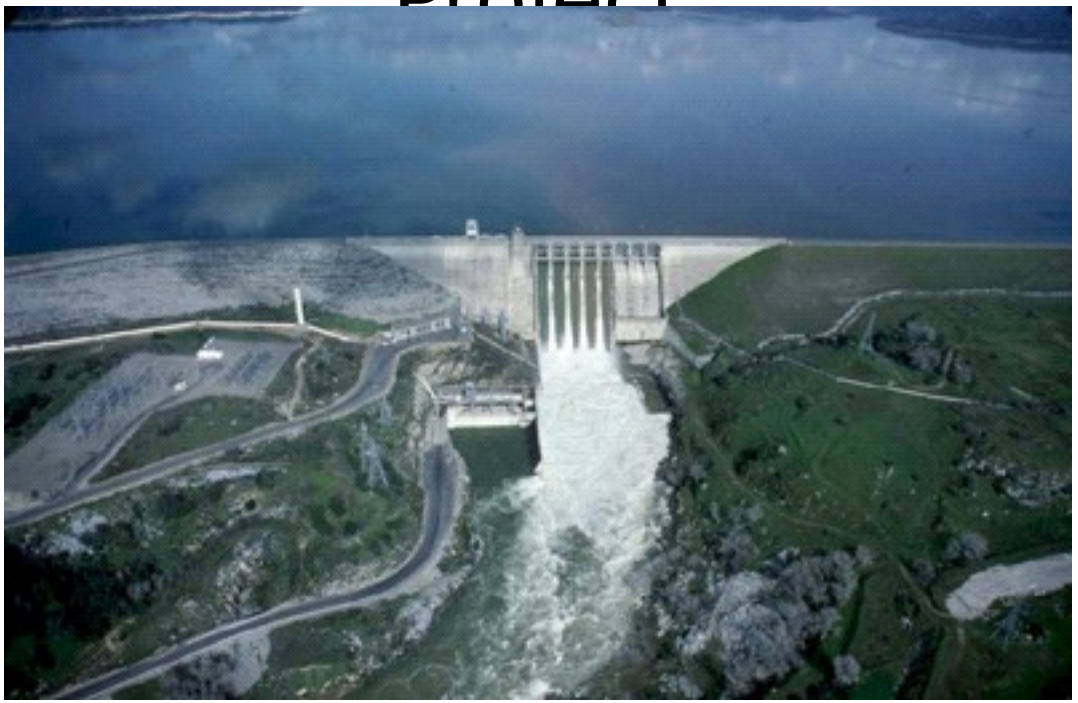
Planner Lessons Learned from After Action Report (AAR) on the American River Folsom Dam Modification Project

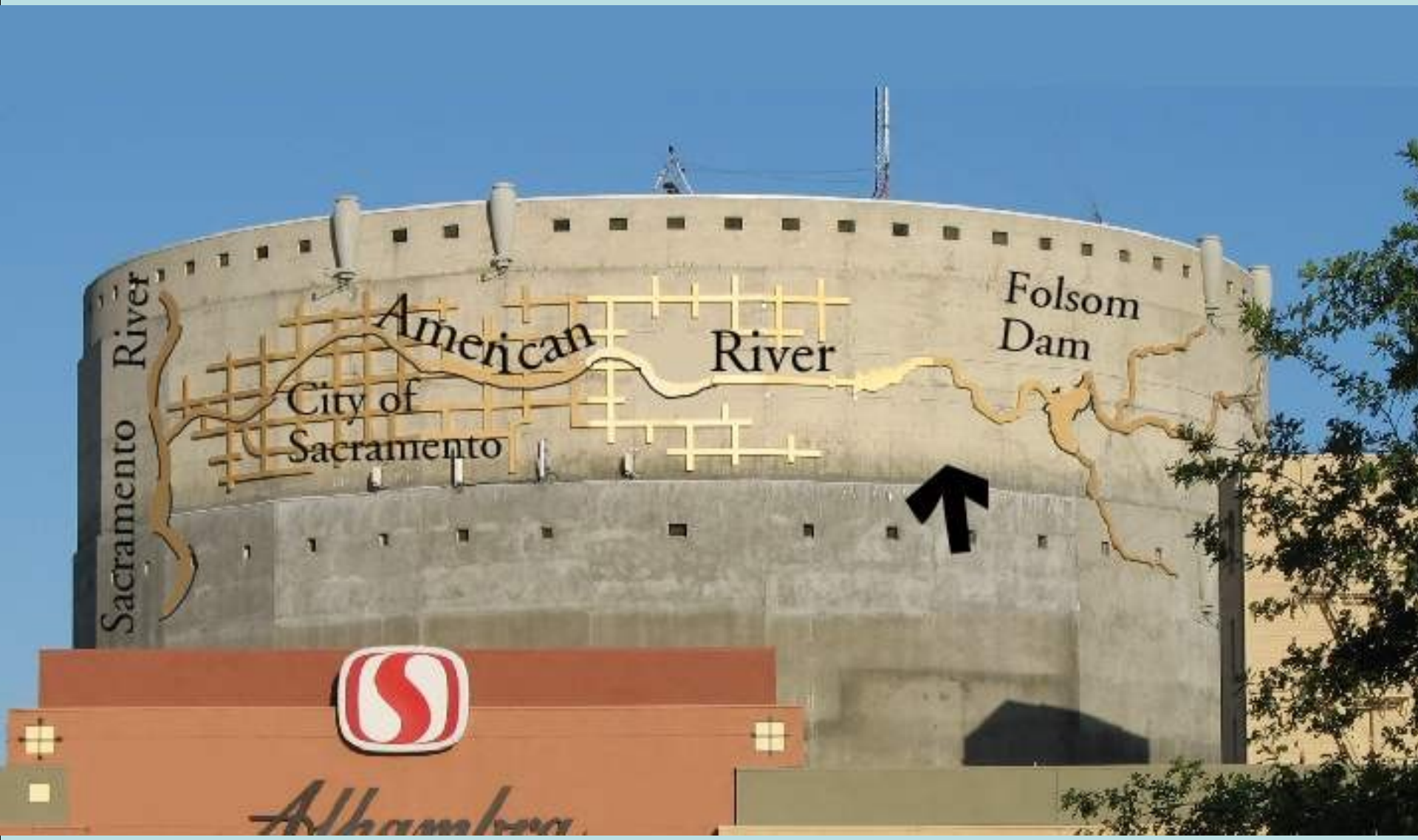


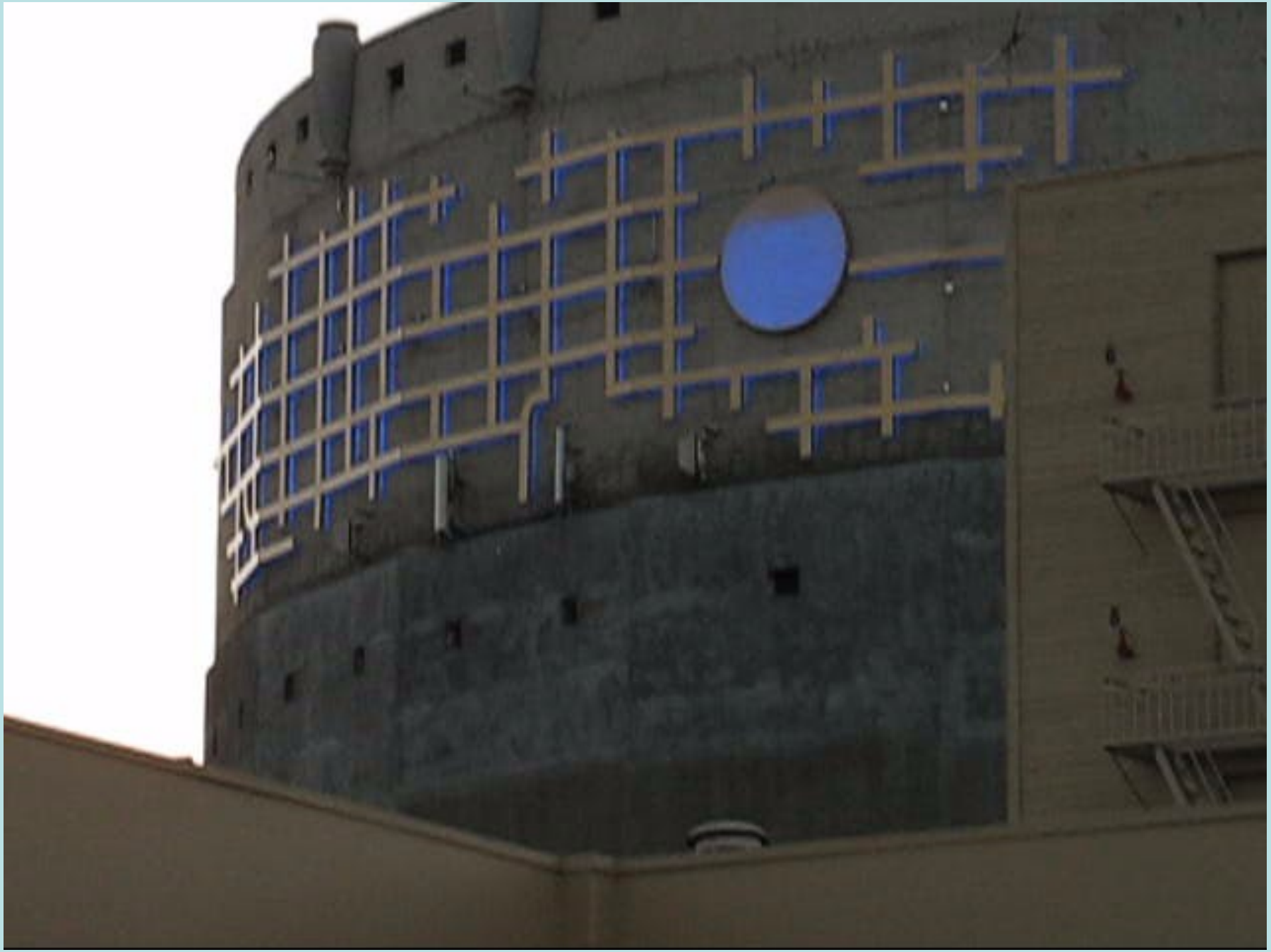
Presentation by
Tomas R. Adams, CESPK-PD
John H. Jacobson, CESPN-ET

Topics

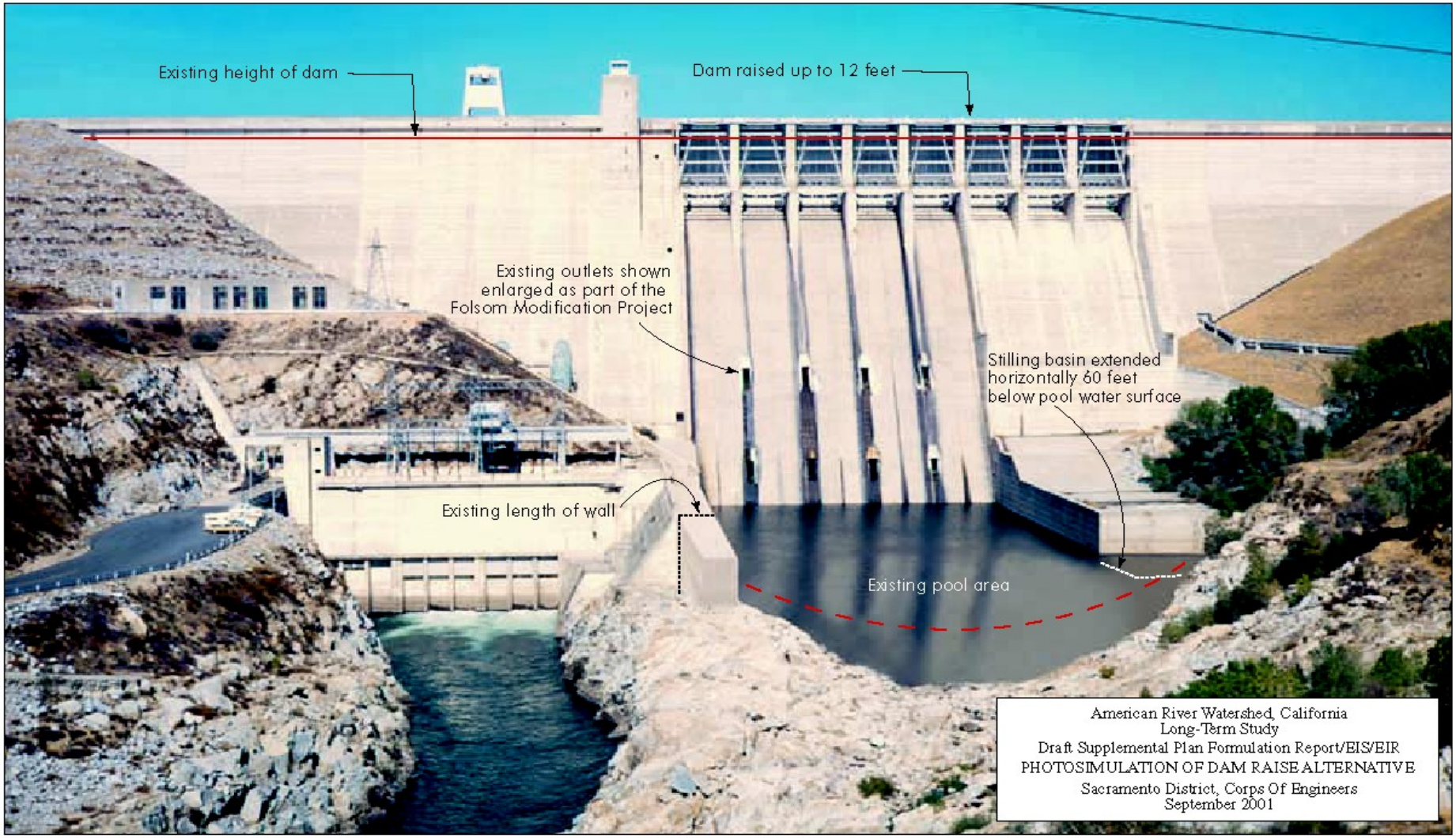
- Background
- PDT AAR
- Follow-on Regional AAR
- Sculpting the Planning Process
- Partnership with Bureau of Reclamation

Alhambra

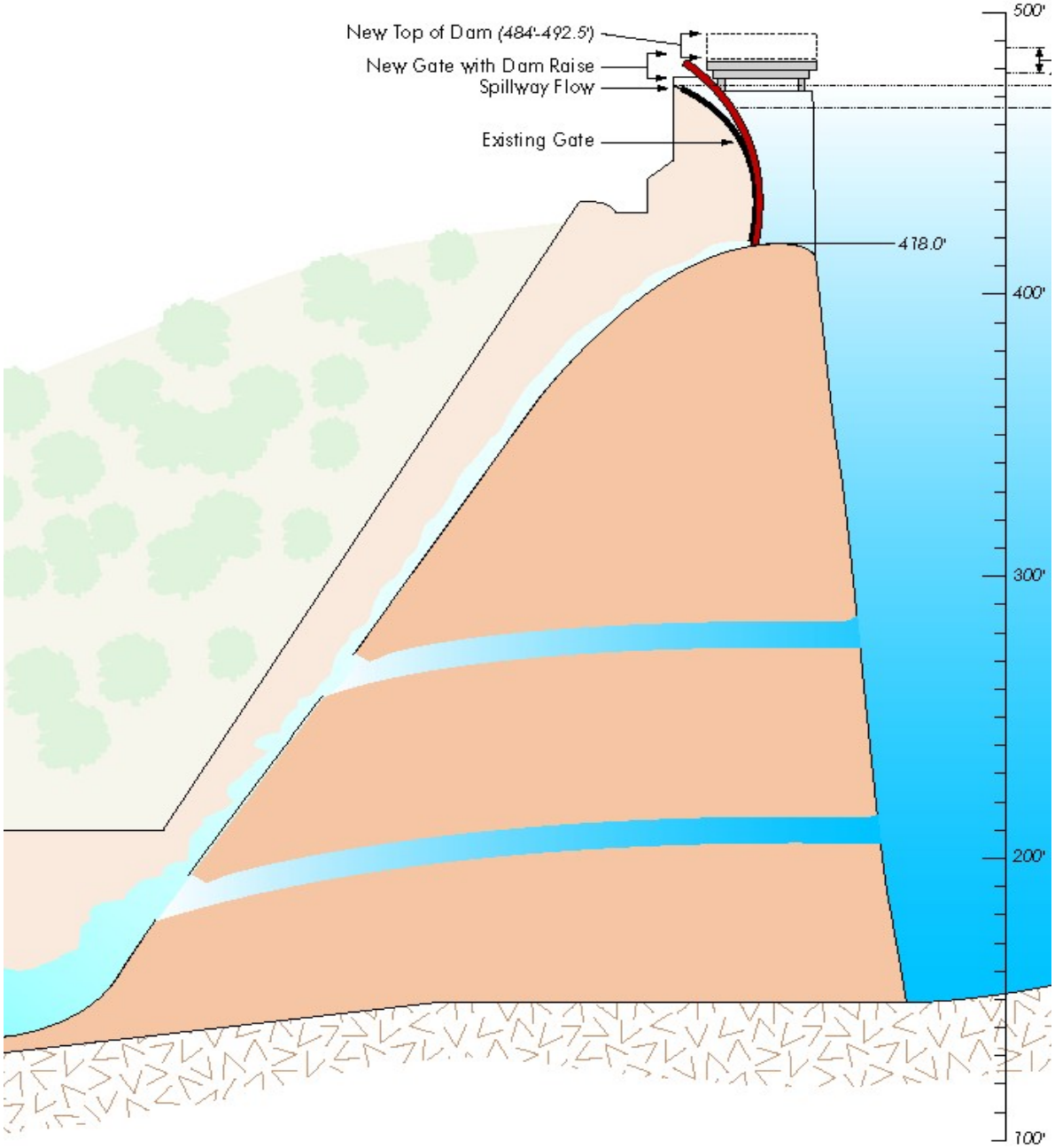

Sacramento River
American River
City of Sacramento
Folsom Dam



RECLAMATION
Folsom Dam
50th Anniversary
1956-2006
Managing Water in the West


Existing height of dam
Dam raised up to 12 feet
Existing outlets shown enlarged as part of the Folsom Modification Project
Stilling basin extended horizontally 60 feet below pool water surface
Existing length of wall
Existing pool area
American River Watershed, California
Long-Term Study
Draft Supplemental Plan Formulation Report/EIS/EIR
PHOTOSIMULATION OF DAM RAISE ALTERNATIVE
Sacramento District, Corps Of Engineers
September 2001

Note: Date of photograph is 1972. Visual changes to dam since then are not shown.


New Top of Dam (484'-492.5')
New Gate with Dam Raise
Spillway Flow
Existing Gate
418.0'
500'
400'
300'
200'
100'

Background

- Folsom Dam Modifications was authorized by Congress in 1999 at a cost of $150M.
- The legislation directed the Corps to start design and construction based upon a sponsor's study and not a Corps produced feasibility report.
- The Corps started design and a project reformulation LRR decision document concurrently.
- During bid opening for the third of the four construction contracts in March 05 the projected overall project costs increased to $650M, significantly exceeding the Section 902 limit of $210M.
- These results were not communicated to District or Division Commanders, HQ, project sponsors, or Congressional interests until June 05.

PDT AAR

- PDT AAR conducted 10-11 Aug 05 and published 16 Sep 05
- Top Three Recommendations of PDT AAR:

1. “PDT’s and managers need to identify, acknowledge and resolve actual or potential project issues in a timely manner, and communicate them horizontally and vertically within the Corps and local stakeholder’s organizations.”
2. “The Corps vertical team needs to re-earn trust and strengthen its relationships with and respect for its project partners reinvigorating our commitment to Army values.”
3. “Interaction between the District Commander and District upper level management needs improvement.”

Follow-On Regional AAR

- Follow-On Regional AAR conducted 20 Sep to 22 Nov 05 and published on 06 Dec 05
- Nine Regional Recommendations:

1. “Reinforce existing requirements to encourage team members to inform in a timely manner sponsors, resource providers, middle management, corporate team, PRB and Division members of project issues, risks, and seek help early on.”
2. “Reinforce existing policies for building trust and developing relationships with our stakeholders.”
3. “Reinforce existing requirements for establishing effective communications and Communication Plan.”
4. “Revise and update regional PMBP Manual and regional QMP for project management and management review.”
5. “Revise and improve regional QMP standards for PDT quality control and cost engineer responsibilities.”
6. “Reinforce existing requirements for design to cost limitations.”
7. “Revise and improve regional standards for acquisition planning.”
8. “Develop and promulgate supplemental guidance clarifying procedures for developing the Section 902 Limit cost estimate.”
9. “Revise and improve regional standards for project reformulations.”

Follow-On Regional AAR

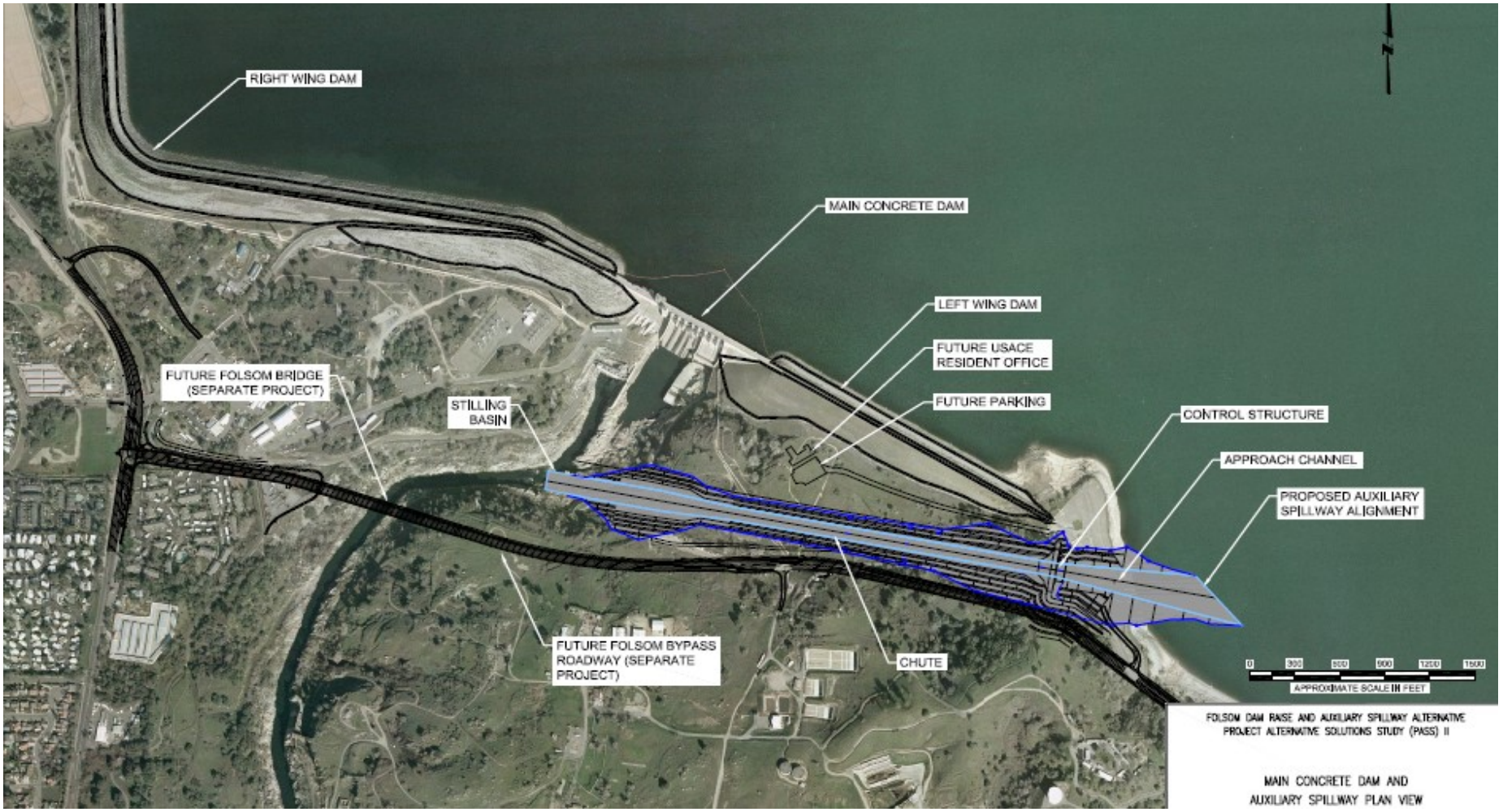
- Regional AAR recommendation to HQ:

  “Request that HQ review project reformulation policy and consider issuing guidance that leads to a requirement of adding a validation type document to our process for those circumstances when legislation directs the Corps to start design and construction of a project without a Corps produced feasibility report. Such guidance is likely to result in regulation changes.”

Regional AAR Recommendation to HQ

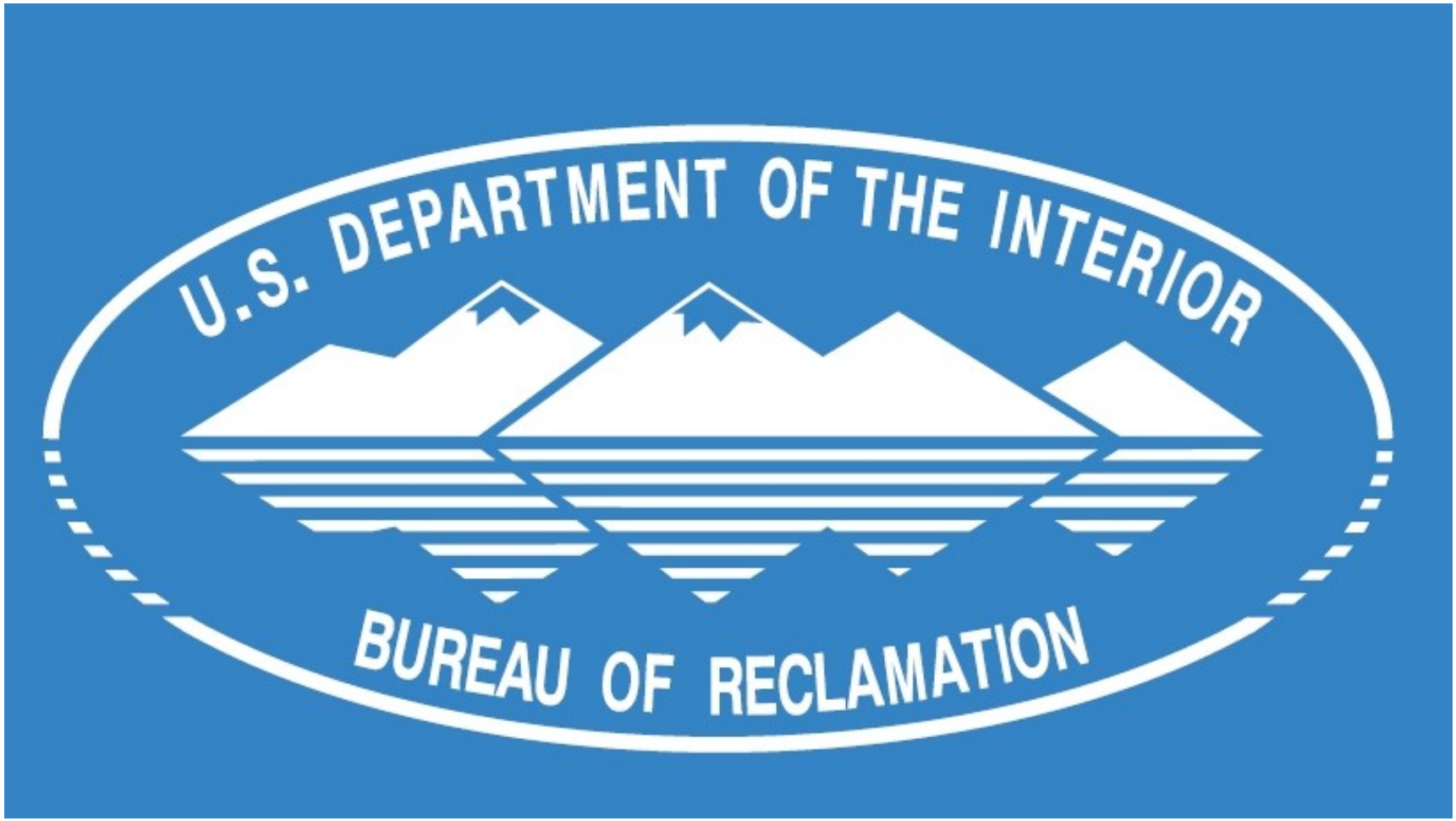
- Current project reformulation policy requires a post authorization decision document based upon a lengthy planning type process for a feasibility study with alternatives analysis and a decision on the selected plan.
- A proposed validation type document would be based upon a much quicker value engineering type design process to validate design criteria, assumptions, risks, and cost estimates of a project authorized without a Corps produced feasibility report. A much quicker design cherrette type partnering process would be used for environmental consultation to validate the selected plan already decided upon by Congress and the President's signature on the authorizing legislation.

Folsom Dam
Sculpting the
Planning Process



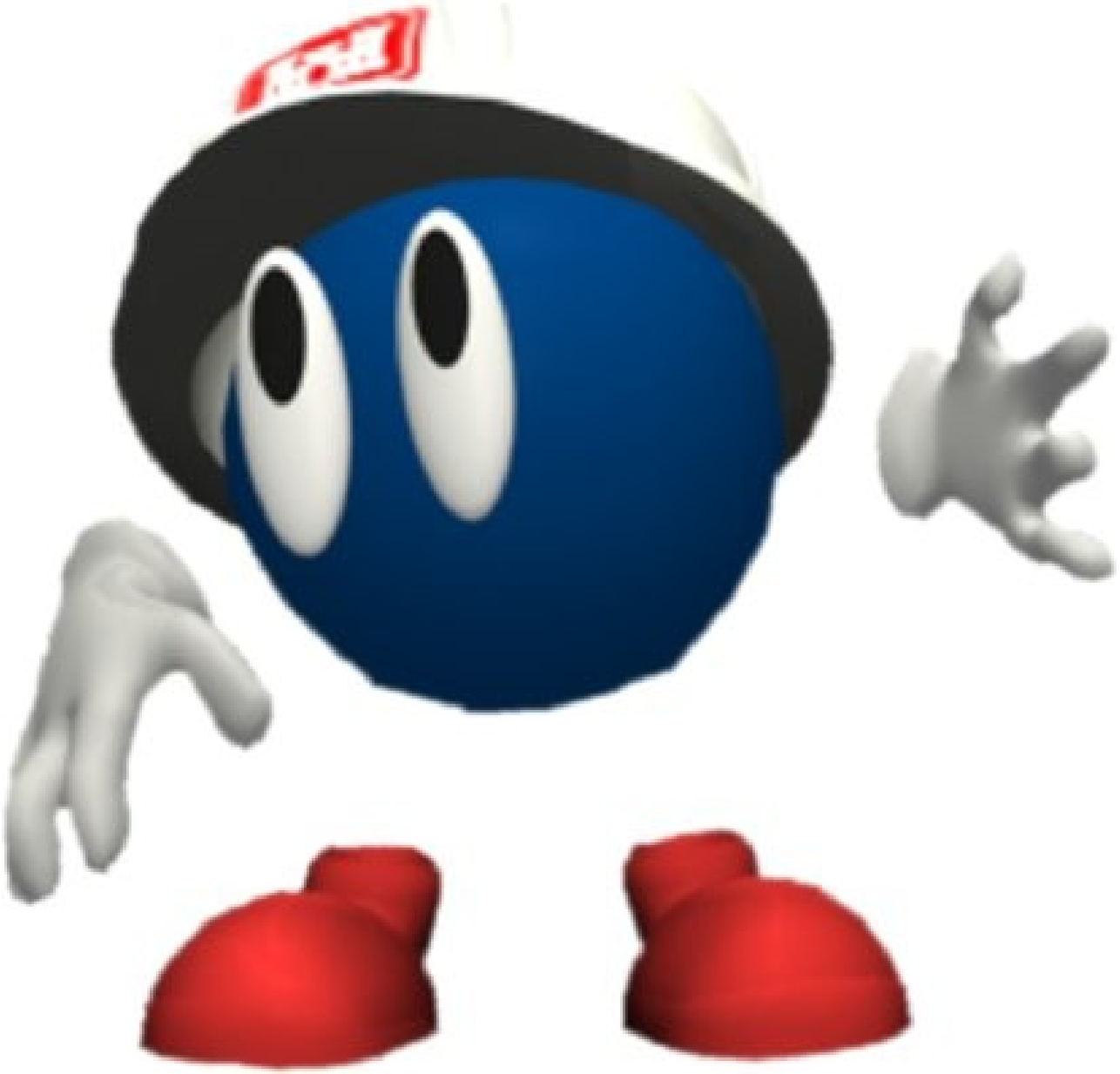
FOLSOM DAM RAISE AND AUXILIARY SPILLWAY ALTERNATIVE
PROJECT ALTERNATIVE SOLUTIONS STUDY (PASS) II

MAIN CONCRETE DAM AND
AUXILIARY SPILLWAY PLAN VIEW


U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

American River GRR

Schedule



USBR

Safety of Dams

Project

Mod Report

Decision Document

EIS/EIR

NEPA/CEQA

Alternatives

USBR Dam Safety Only Alternative

Ungated Auxiliary Spillway

Design Refinement Process

\+

Integrated Plan

Folsom Mods Functionally Equivalent +
Folsom Dam Raise +
Dam Safety

Gated Aux Spillway + Seven-Foot Raise

Common Plan

USACE

Folsom Dam Modifications

PAC

SEIS/EIR

Alternatives

- Current Folsom Mods
  Outlets
- Functionally Equivalent
  Gated Aux. Spillway
- Functionally Equivalent +Dam Safety
  ????

\+

Integrated Plan

Folsom Mods Functionally Equivalent +
Folsom Dam Raise +
Dam Safety

Gated Aux Spillway + Seven-Foot Raise

Folsom Dam Raise

PAC

SEIS/EIR

Alternatives

Top-Of-Dam Study Alternatives

Seven-Foot Raise

\+

Integrated Plan

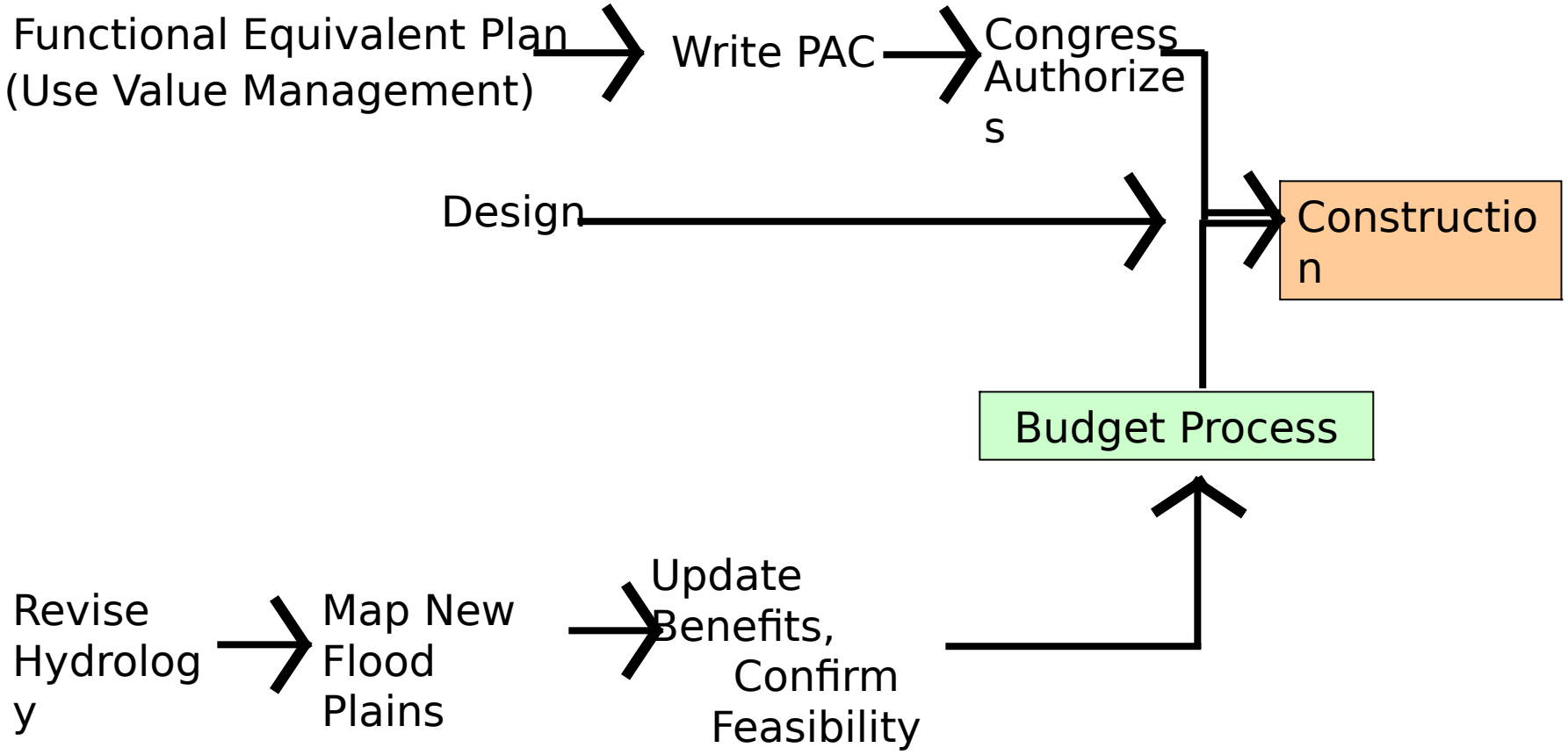
Folsom Mods Functionally Equivalent +
Folsom Dam Raise +
Dam Safety

Gated Aux Spillway + Seven-Foot Raise

DRAFT 02.01.06

Folsom Dam Modifications & Raise Projects

Post Authorization Planning Strategy



Auxiliary Spillway
Dam Raise

USBR

Safety of Dams

Project

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Value Management PAC Lessons We Hope to Learn

- Cross-planning
  - Between the Corps and Reclamation
  - Between two project authorities and a dam safety program
- Effective Value Management
- Live with risk of reevaluation of damages parallel with planning process

References

Recommended Regional Corrective Actions
From After Action Review of
Folsom Dam Modifications
Contract Solicitation

06 DECEMBER 2005